Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Use of Spectrum Bands Above 24 GHz For Mobile Radio Services	)	GN Docket No. 14-177
	)	
	)	
Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 To Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services	)	WT Docket No. 10-112

REPLY COMMENTS OF AT&T SERVICES, INC.

I. INTRODUCTION AND SUMMARY

AT&T Services, Inc., on behalf of the subsidiaries and affiliates of AT&T Inc. (collectively, "AT&T"), hereby submits this reply to comments regarding the Federal Communications Commission's ("Commission" or "FCC") *Third Further Notice of Proposed Rulemaking* in the above-captioned proceeding.[1] AT&T commends the Commission's continued dedication to allocating and auctioning millimeter wave spectrum to support 5G networks and services. In its initial comments, AT&T explained that to achieve its laudable goals, the Commission should adopt regulations that promote the highest and best use of these critical spectrum resources. The record reflects a great deal of consensus on several key points, including: (i) reallocating the 42 GHz band in a manner consistent with other Upper Microwave Flexible Use Service ("UMFUS") bands; (ii) limiting the expansion of Federal exclusion zones

[1] *Use of Spectrum Bands Above 24 GHz for Mobile Radio Services*, GN Docket No. 14-177, WT Docket No. 10-112, Third Report and Order, Memorandum Opinion and Order, and Third Further Notice of Proposed Rulemaking, FCC 18-73 (June 8, 2018) ("*Third FNPRM*").

in the licensed 37.6-40.0 GHz band; (iii) reallocating the 26 GHz band for UMFUS and rejecting proposals to dedicate spectrum to speculative and proprietary airborne systems; and (iv) denying requests to expand FSS rights in the 50.4-51.4 GHz band. AT&T also notes that even in the one area where the record displays a variety of competing proposals—the mechanism for shared use of the 37.0-37.6 GHz band—commenters still coalesced around certain key points. AT&T is confident that the industry, or a predominant proportion thereof, will reach agreement in the near term on core principles with which the Commission can develop a process allowing for shared use.

II. THE COMMISSION SHOULD REALLOCATE THE 42.0-42.5 GHz BAND FOR LICENSED TERRESTRIAL COMMERCIAL USE UNDER REGULATIONS CONSISTENT WITH OTHER UMFUS BANDS

AT&T supports the reallocation of the 42.0-42.5 GHz band in a manner consistent with other Upper Microwave Flexible Use Service ("UMFUS") bands. In particular, AT&T's comments noted that finding the band suitable and available for commercial mobile broadband use would be consistent with ITU standardizations for mobile broadband, and ensure that U.S. companies remain at the leading edge of development and commercialization of the band.[2] AT&T also supported reallocating the band for exclusive, licensed commercial mobile broadband use.[3] AT&T's comments cited to the Commission's recent allocations of a massive amount of spectrum for unlicensed use, as well as the potential negative effect of Federal sharing and encumbrances—and the resulting uncertainty regarding the scope of rights to be auctioned—could have on the commercial development and deployment of the band.[4]

[2] Comments of AT&T Inc. at 3-4, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("AT&T Comments").

[3] AT&T Comments at 4.

[4] AT&T Comments at 5-6.

These basic points were strongly supported on the record, starting with broad support for reallocating the 42.0-42.5 GHz band under the existing UMFUS regulations.[5] As CTIA notes, UMFUS is a tested and successful licensing scheme, and utilizing this existing regime is superior to exploring experimental approaches to licensing.[6] The Commission has also previously recognized that the record in this proceeding reflects broad support for applying UMFUS regulations to this new band.[7] The record further reflects strong support for limiting the use of this band to exclusive commercial use, without mandating sharing or introducing Federal use.[8] As U.S. Cellular notes, in bands such as the 42.0-42.5 GHz band, where significant research and development is necessary to deploy 5G services, "it is crucial to provide the stability and predictability that arises only from exclusive-use [licenses]."[9] In light of this strong record support, the Commission should adopt its proposal to authorize mobile service operations in the 42.0-42.5 GHz band under the UMFUS rules.

---

[5] *See, e.g.,* Comments of Nokia at 2, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("Nokia Comments"); Comments of Qualcomm Incorporated at 14, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("Qualcomm Comments"); Comments of Ericsson at 4, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("Ericsson Comments"); Comments of Samsung Electronics America at 9, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("Samsung Comments"); Comments of T-Mobile USA, Inc. at 3-4, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("T-Mobile Comments"); Comments of United States Cellular Corporation at 3, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("US Cellular Comments"); Comments of the Telecommunications Industry Association at 2-3, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("TIA Comments"); Comments of CTIA at 10, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("CTIA Comments").

[6] CTIA Comments at 2.

[7] *Third FNPRM* at ¶49.

[8] T-Mobile Comments at 4-7; Ericsson Comments at 4; Qualcomm Comments at 14; Telecommunications Industry Association Comments at 2-3; CTIA Comments at 12; US Cellular Comments at 3-4.

[9] US Cellular Comments at 3-4.

III. THE COMMISSION SHOULD PROVIDE CERTAINTY TO CURRENT AND FUTURE 37.6-40.0 GHZ LICENSEES AND NOT EXPAND FEDERAL RIGHTS IN THIS BAND

AT&T opposes expanding the number of Federal sites in the 37.6-40.0 GHz band granted protection pursuant to Section 30.205 of the rules, both because no party has identified any need for additional protected sites and because granting such rights negatively affects the utility of the spectrum for 5G services.[10] In voicing its opposition, AT&T noted that creating uncertainty regarding the future scope of spectrum rights would significantly diminish incentives to invest in infrastructure in the band and, as a consequence, auction values.[11] While AT&T does not favor an expansion of Federal sites or rights in the 37.6-40.0 GHz band, if an articulated need is identified the Commission should ensure that it adopts—prior to the auction—rules to provide certainty with respect to any Federal spectrum rights. It should also guarantee that license rights will not be encumbered in the future by some unspecified Federal sharing obligations.[12]

The record demonstrates that other commenters share AT&T's concern about expanding the number of Federal sites granted protection, and its potential impact on the commercial development of the band.[13] As T-Mobile explains in its comments, "wireless network deployment requires a stable, predictable spectrum environment."[14] TIA echoes these sentiments, noting "[u]ncertainty in the 37 GHz band, even for a 'limited number' of sites, could unnecessarily depress investment in the band."[15] Accordingly, the Commission should not

[10] AT&T Comments at 10.

[11] AT&T Comments at 10.

[12] AT&T Comments at 11.

[13] *See, e.g.*, Ericsson Comments at 13; TIA Comments at 5; T-Mobile Comments at 15-16.

[14] T-Mobile Comments at 15.

[15] TIA Comments at 5.

expand the number of Federal sites granted protection and, if it inadvisably decides to expand the number of such sites, it must not do so after spectrum is licensed for commercial operations in a manner that negatively impacts or encumbers spectrum rights acquired at auction.[16] As the record demonstrates, to do otherwise would significantly jeopardize the development and deployment of this critical band.

IV. THE COMMISSION SHOULD REJECT ELEFANTE'S PROPOSAL AND INSTEAD REALLOCATE THE 26 MHz BAND UNDER REGULATIONS CONSISTENT WITH OTHER UMFUS BANDS

Consistent with the overwhelming majority of commenters in this proceeding, AT&T also supports reallocating the 26 MHz band for exclusive commercial flexible broadband use.[17] The only notable opposition to the proposed reallocation is Elefante, which argues that allocating the band for UMFUS would raise serious compatibility issues with its own proprietary plans for the band.[18] In its comments, AT&T opposed Elefante's proposal for a "Stratospheric-Based Communications Service" ("SBCS") in the band, as well as similar "High Altitude Platform

[16] As AT&T originally noted, to the extent that some future Federal needs may arise in the future, "because many Federal facilities are in remote or rural areas, Federal users could work cooperatively with commercial licensees, who should be accommodating in providing secondary market rights or leases to support Federal uses." AT&T Comments at 10 (also noting that the limited propagation in the millimeter wave bands, and the property rights held by the Federal government, would also make such arrangements easier to negotiate, and suggesting possible incentives for licensees with respect to build-out showings for work with Federal entities).

[17] AT&T Comments at 12. Nokia Comments at 3; Qualcomm Comments at 13-14; Ericsson Comments at 7; Samsung Comments at 5-6; Comments of the Competitive Carriers Association at 4-5, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) ("CCA Comments"); T-Mobile Comments at 16-17; U.S. Cellular Comments at 3-8; TIA Comments at 5-6; CTIA Comments at 8; Comments of 5G Americas at 3-4, GN Docket No. 14-177 (filed Sept. 10, 2018).

[18] *See, e.g.*, Comments of Elefante Group, Inc. at 18, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) (arguing UMFUS should be not authorized in the 26 GHz band "unless it can be demonstrated that UMFUS can operate compatibly with SBCS (and other services) in the same spectrum so as not to jeopardize the deployment of SBCS").

Stations" ("HAPS"), because SBCS/HAPS use and UMFUS use are fundamentally incompatible. Elefante admits that harmful interference would occur between unaffiliated UMFUS and SBCS or HAPS deployments.[19] AT&T further argued the Commission should not skirt normal licensing practice to dedicate significant portions of a valuable spectrum band for the commercial use of a single entity, and that if Elefante desired to obtain spectrum, it could, like others, bid at auction.[20]

The record demonstrates that other commenters are similarly opposed to Elefante's incompatible and unworkable suggestion that would unnecessarily hinder development of the band.[21] CTIA raises concerns with interference, noting "[g]iven that Elefante itself argued that it cannot share at all with terrestrial services, the 26 GHz band should not be undermined by the proposed Elefante system but instead should be repurposed for terrestrial fixed and mobile services, such as 5G."[22] Ericsson notes Elefante's proposal is incompatible with the highest use of the band, stating "[i]n view of the international consensus that the 26 MHz band should be used for 5G, it would make no sense for the Commission to reverse field and instead make the band available for airborne platform systems," and further notes it agrees with Elefante that "mobile deployments cannot share the band with unaffiliated stratospheric communications systems absent an extremely high degree of dynamic coordination and information sharing, and this complicated and unnecessary scheme does not make sense for the 26 GHz band."[23] T-

[19] AT&T Comments at 14.

[20] AT&T Comments at 15.

[21] *See, e.g.*, T-Mobile Comments at 18-19; Ericsson Comments at 8; Samsung Comments at 8; CTIA Comments at 9-10; Qualcomm Comments at 14.

[22] CTIA Comments at 9-10.

[23] Ericsson Comments at 8.

Mobile argues that granting Elefante's request would be unnecessarily risky, noting "constraining the terrestrial use of the band would not serve the public interest. Elefante's proposal is highly speculative—it will not even have a prototype airship to begin testing until late 2020," before adding "[i]n contrast, terrestrial mobile broadband service have been widely deployed" and that dedicating the band for that use would "enable wireless providers to densify their already far-reaching networks and provide greater speed and capacity to many more people."[24] For these reasons, the Commission should put the 26 GHz band to its best and highest use—deploying 5G services—and reject Elefante's request to deploy airborne systems such as SBCS.

V. FSS RIGHTS IN THE 50.4-51.4 GHz BAND SHOULD PARALLEL THOSE IN OTHER UMFUS BANDS

AT&T also concurs with the Commission that Fixed Satellite Service ("FSS") rights in the 50.4-51.4 GHz band should parallel those for the 24 GHz band.[25] In supporting this proposal, AT&T noted the regulations adopted for the 24 GHz band considered the needs of satellite users and established ground rules that permitted extensive deployment of the bands for 5G services.[26] The record demonstrates numerous commenters also support permitting FSS licensing in the 50.4-51.4 GHz band using the same criteria applicable to the 24 GHz band.[27] No evidence or rationale has been put forth that suggests these rules need to be revised or altered. In the absence of such a demonstration, the Commission should reject any attempt by the satellite

[24] T-Mobile Comments at 18-19.

[25] AT&T Comments at 15.

[26] AT&T Comments at 16.

[27] T-Mobile Comments at 19-20; Ericsson Comments at 4-5; TIA Comments at 6-7; Comments of EchoStar Satellite Operating Corporation and Hughes Network Systems, LLC at 5-7, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018); CCA Comments at 7.

industry and FSS licensees to re-set regulations that established broad and balanced sharing rights between terrestrial 5G and FSS communities. As T-Mobile urges in its comments, "[t]he Commission should act promptly to authorize this band for mobile use, and it should ensure that any actions it takes to grant additional limited access to FSS in the band do not inhibit terrestrial mobile use of the band," before adding that the sharing framework for the 24 GHz band "presents a consistent approach across already allocated" millimeter wave bands.[28] Therefore, the Commission should reject any proposed modifications at this time, and grant FSS rights in the 50.4-51.4 GHz band that parallel those for the 24 GHz band.

VI. AT&T WILL CONTINUE TO MONITOR SHARING PROPOSALS FOR THE 37.0-37.6 GHz BAND

The record in this proceeding includes a variety of proposals for the implementation of sharing in the 37.0-37.6 GHz band.[29] While these proposals initially appear wide-ranging, they are not fundamentally in opposition, but rather reflect variations on regulatory structures to achieve certain key sharing goals that have broad support. In particular, commenters have stressed the need for rules that can be rapidly implemented and easily administered—both goals that AT&T supports.[30] Commenters have also broadly recognized that the propagation

[28] T-Mobile Comments at 20.

[29] *See, e.g.*, T-Mobile Comments at 9-10 (arguing the Commission should reject unproven sharing mechanisms such as those proposed in the *Third FNPRM*, and should instead utilize alternative measures such as restricting future USG primary use to remote areas, restricting USG assignments to lower parts of the band, and requiring future USG assignments to be static); *see also* Comments of Starry, Inc. at 5, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018) (suggesting, among other proposals, that coordination should be based on first-in-time rights, and that licensees or registrants should have an expectation of use and reasonable interference protection—but not exclusion).

[30] *See, e.g.*, Qualcomm Comments at 12; Starry Comments at 4-9; Comments of the Wireless Internet Service Providers Association at 3, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018); Comments of Open Technology Institute at New America at 5-10, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 18, 2018); TIA Comments at 3-4; Joint

limitations in the band—as well as limitations on propagation through buildings, which may curtail the need for complex sharing rules— means initial coordination can be undertaken quickly and, for indoor devices, may simply be able to rely on physical property rights.[31] Commenters also concur that the access mechanism for Federal and non-Federal users should be the same.[32]

Given this commonality, AT&T believes the industry can collectively develop and propose on the record sharing rules in an expedited manner that are consistent with AT&T's expressed principles for the band: (i) co-primary sharing between Federal and non-Federal users that ensures all users accessing the band receive protection via the same process accomplished through a coordination and registration mechanism; (ii) foregoing defining hierarchies of users; (iii) establishing simple exclusive zones around those Federal sites that require protection; (iv) adopting channel assignments for commercial users that are as static as possible; (v) providing for site-cluster licenses that are user-defined polygons; and (vi) conditioning protection of facilities deployed under a site cluster license on maintaining active use of the facility – verified via a regular "heartbeat" to the coordinator on a relatively short periodic basis.[33] AT&T looks forward to working with the rest of the industry to craft simple and transparent sharing rules and,

---

Comment of Intel Corporation and Cisco Systems, Inc. at 10-17, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 18, 2018).

[31] *See, e.g.*, Intel-Cisco Comments at 6-7, 18-20; OTI Comments at 10-12; Comments of Dynamic Spectrum Alliance at 1-2, GN Docket No. 14-177, WT Docket No. 10-112 (filed Sept. 10, 2018). While some commenters have suggested creation of a different, general access, tier of usage, AT&T believes that indoor-only usage could be implemented without creating multiple classes of users. As long as devices can be effectively identified as being "indoor," the FCC could simply permit devices to forego coordination, rather than classifying them as a different category of user.

[32] *See, e.g.*, Intel-Cisco Comments at 5; TIA Comments at 3-5; OTI Comments at 3; Starry Comments at 2; Qualcomm Comments at 8-9; DSA Comments at 2.

[33] AT&T Comments at 7-9.

based on the comments in this proceeding, believes such regulations can be developed in an expedited timeframe.

VII. CONCLUSION

AT&T urges the Commission to adopt the proposals contained herein, which are broadly supported in the record and appropriately focus on providing the industry with the spectrum and regulatory certainty necessary to aggressively invest in, and deploy, next generation 5G networks and services. These proposals balance the rights of incumbents, and other spectrum users, with those of the new licensees necessary to put the spectrum at issue to its best and highest use. By pressing forward with UMFUS allocations in the 26 GHz, 42 GHz, and 51 GHz bands, along with refinements to the 37-40 GHz spectrum band, the Commission can ensure the industry is poised to rapidly deliver the promised benefits of the next generation of services to the American public.

Respectfully Submitted,

/s/ Jessica B. Lyons

Jessica B. Lyons
Alex Starr
Michael P. Goggin
Gary L. Phillips
David L. Lawson
AT&T SERVICES, INC.
1120 20th Street, NW
Washington, DC 20036
(202) 457-2100
Its Attorneys

September 28, 2018